

REMARKS

Claims 1-13 are pending in the application. Claims 1-7 have been withdrawn from consideration as being directed to a non-elected invention. In the Final Office Action of May 20, 2005, the Examiner rejected claims 8-13 under 35 U.S.C. §103(a) as being allegedly unpatentable over *Yamahara et al.* in view of *Gibbons et al. '609*. Applicants respectfully traverse the rejection and address the Examiner's disposition below.

Applicants' independent claim 8, as amended, claims a liquid crystal display device comprising a pair of transparent substrates being aligned via a predetermined distance therebetween with at least one of them having thereon a film for liquid crystal orientation. A liquid crystal layer is in the distance between the substrates. The film is a UV-reactive film, and is exposed to first polarized UV rays while the film is on the substrate aligned parallel to a reference plane, and next to second polarized UV rays after the substrate is rotated on the reference plane. The device has a contrast ratio greater or equal to 138 effected by the exposure to the first polarized UV rays and the second polarized UV rays. The device has a pre-tilt angle greater than or equal to 3.5° effected by the exposure to the first polarized UV rays and the second polarized UV rays.

Therefore, as claimed in claim 8, the substrate is rotated on the reference plane between UV ray exposures. As described in the specification, the first polarized UV ray exposure is used to control the intended liquid crystal orientation, then the substrate is rotated on the reference plane, and then the second polarized UV ray exposure is used to control the pre-tilt angle of the liquid crystal. (Specification, page 3, lines 12-23). Applicants' device, as claimed in claim 8, has beneficial characteristics from the substrate being rotated between UV ray exposures. Specifically, a stable pre-tilt angle is present in the liquid crystal and a contrast ratio greater than or equal to 138 is achieved. Further, a pre-tilt angle greater than or equal to 3.5° is also achieved. If, for example, the substrate is not rotated on the reference plane, and instead the radiation source is moved on an elevation angle relative to the reference plane, then the pre-tilt angle in the liquid crystal would not be as stable as in Applicants' claimed device and a lower contrast ratio would be achieved.

This is clearly unlike *Yamahara* in view of *Gibbons '609*, which fails to disclose or even suggest a device that has a contrast ratio greater than or equal to 138 effected by Applicants' claimed UV ray exposure and fails to disclose or suggest Applicants' claimed effected pre-tilt angle. As acknowledged by the Examiner, *Yamahara* teaches a contrast ratio of 137, but fails to discuss UV ray disclosure. Therefore, the Examiner combines *Yamahara* with *Gibbons '609*,

however, Applicants submit that the combination still fails to disclose or suggest claim 8.

Gibbons '609 teaches exposing a device to UV rays. However, *Gibbons '609* fails to teach exposing its device so as to effect a contrast ratio of greater than or equal to 138. In fact, *Gibbons '609* fails to even mention the term "contrast ratio," let alone teach how to effect a desired contrast ratio. Although *Yamahara* teaches a device that has a contrast ratio of 137, *Yamahara* 1) fails to teach a contrast ratio in Applicants' claimed range of greater than or equal to 138, and 2) fails to even relate to effecting a contrast ratio by exposing a device to UV rays.

Therefore, one having skill in the art would not have been motivated to even combine *Yamahara* with *Gibbons '609*, as *Yamahara* fails to even relate to rotating and exposing a device to UV rays. Further, as neither of the cited references teaches Applicants' claimed contrast ratio nor even suggests how to effect Applicants' claimed contrast ratio by exposure to UV rays, *Yamahara* in view of *Gibbons '609* fails to disclose or suggest claim 8.

Further, *Yamahara* in view of *Gibbons '609* fails to disclose or suggest a pre-tilt angle greater than or equal to 3.5° effected by exposure to first polarized UV rays and second polarized UV rays. In fact, *Yamahara* and *Gibbons '609* each fail to even discuss pre-tilt angle values, let alone Applicants' claimed pre-tilt angle greater than or equal to 3.5°. For at least this additional reason, *Yamahara* in view of *Gibbons '609* fails to disclose or suggest claim 8.

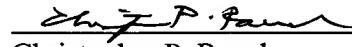
Claims 19-13 depend directly or indirectly from claim 8 and are therefore allowable for at least the same reasons that claim 8 is allowable.

Applicants respectfully submit that the rejection has been overcome and request that it be withdrawn.

CONCLUSION

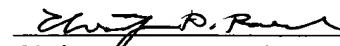
In view of the foregoing, it is submitted that claims 8-13 are patentable. It is therefore submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

Respectfully submitted,

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